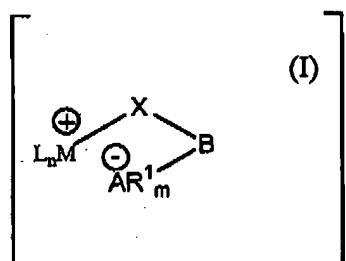
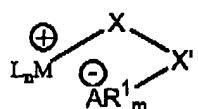


AMENDMENTS TO THE CLAIMS

1. (Once amended) A zwitterionic transition metal compound of the formula I



(I)



where

L are identical or different and are each a  $\pi$ -ligand or an electron donor, n is equal to 1, 2, 3 or 4,

M is a metal atom of group IIIb, IVb, Vb or VIb of the Periodic Table of the Elements,

X is a heteroatom or a hydrocarbon group having 1-40 carbon atoms,

X' is a hydrocarbon group having 1-40 carbon atoms,

A is an atom of group Ib, IIB, IIIa, IIIb, IVa, Va, Vb, VIb, VIIb or VIIIb of the Periodic Table of the Elements,

R<sup>1</sup> are identical or different and are each a perhalogenated C<sub>1</sub>-C<sub>40</sub>-hydrocarbon radical, and m is equal to 1, 2, 3, 4 or 5.

2. (original) A transition metal compound as claimed in claim 1, wherein the radicals L are identical or different and are each a  $\pi$ -ligand.
3. (original) A transition metal compound as claimed in claim 1, wherein the radicals L are identical or different and are each an unsubstituted or substituted cyclopentadienyl group.
4. (original) A transition metal compound as claimed in claim 1, wherein the radicals L are linked to one another via a bridge.
5. (original) A transition metal compound as claimed in claim 1, wherein n=2 when M is a metal atom of group IVb of the Periodic Table of the Elements.
6. (original) A transition metal compound as claimed in claim 1, wherein M is a metal atom of group IVb of the Periodic Table of the Elements, n is equal to 2, L are identical or different and are each a substituted or unsubstituted cyclopentadienyl group, where two radicals L are optionally linked to one another via a bridge Z and Z is CR<sup>2</sup>R<sup>3</sup> or SiR<sup>2</sup>R<sup>3</sup> or a unit Si—(CR<sup>2</sup>R<sup>3</sup>)<sub>x</sub>—Si which links two fragments L<sub>n</sub>M<sup>+</sup>XX'—A—R<sup>1</sup><sub>m</sub> with one another, where x is an integer from 0 to 10, X and X' together form a three-membered to five-membered hydrocarbon chain which can be saturated or unsaturated and are unsubstituted or substituted by one or more C<sub>1</sub>-C<sub>20</sub>-hydrocarbon radicals, R<sup>2</sup> and R<sup>3</sup> are identical or different and are each a hydrogen atom, a halogen atom, a C<sub>1</sub>-C<sub>20</sub>-alkyl group, a C<sub>1</sub>-C<sub>10</sub>-fluoralkyl group, a C<sub>1</sub>-C<sub>10</sub>-alkoxy group, a C<sub>6</sub>-C<sub>14</sub>-aryl group, a C<sub>6</sub>-C<sub>10</sub>-fluoroaryl group, a C<sub>6</sub>-C<sub>10</sub>-aryloxy group, a C<sub>2</sub>-C<sub>10</sub>-alkenyl group, a C<sub>7</sub>-C<sub>40</sub>-arylalkyl group, a C<sub>7</sub>-C<sub>40</sub>-alkylaryl group, a C<sub>8</sub>-C<sub>40</sub>-arylalkenyl group, or R<sup>2</sup> and R<sup>3</sup> together with the atoms connected them form one or more rings, and R<sup>2</sup> and R<sup>3</sup> are optionally bonded to L;

A is an atom of group Ib, IIB, IIIa, IVa, Va, Vb of the Periodic Table of the Elements,  
R<sup>1</sup> are identical or different and are each a perfluorinated alkyl or aryl group having from 1 to  
20 carbon atoms and  
m is equal to 2, 3 or 4.

7. (original) A transition metal compound as claimed in claim 6, wherein

M is zirconium,

n is equal to 2,

L are identical or different and are each a substituted cyclopentadienyl group, where two  
radicals L are linked to one another via a bridge Z, where Z is CR<sup>2</sup> R<sup>3</sup> or SiR<sup>2</sup> R<sup>3</sup> and R<sup>2</sup> and R<sup>3</sup>  
are as defined in claim 6,

X and X' together form an unsaturated four-membered hydrocarbon chain whose hydrogen  
atoms are optionally replaced by C<sub>1</sub> -C<sub>20</sub> -alkyl groups,

A is boron atom,

R<sup>1</sup> are identical and are each a pentafluorophenyl group (C<sub>6</sub> F<sub>5</sub>) and

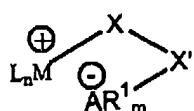
m is equal to 3.

8. (original) A catalyst component comprising at least one transition metal compound as claimed in  
claim 1.

9. (original) A catalyst component as claimed in claim 8, additionally containing a support.

10. (Once amended) A process for preparing a compound according to claim 1 of the formula I,

(I)



where

L are identical or different and are each a  $\pi$  ligand or an electron donor, n is equal to 1, 2, 3 or 4,

M is a metal atom of group IIIb, IVb, Vb or VIb of the Periodic Table of the Elements,

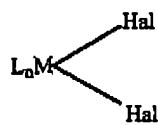
X is a heteroatom or a hydrocarbon group having 1-40 carbon atoms,

X' is a hydrocarbon group having 1-40 carbon atoms,

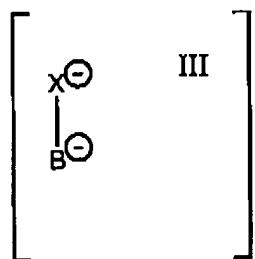
A is an atom of group Ib, IIB, IIIa, IIIb, IVa, Va, Vb, VIb, VIIb or VIIIB of the Periodic Table of the Elements,

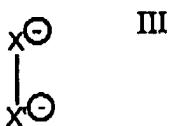
R<sup>1</sup> are identical or different and are each a perhalogenated C<sub>1</sub> -C<sub>40</sub> -hydrocarbon radical, and m is equal to 1, 2, 3, 4 or 5, which comprises reacting a compound of the formula II

II



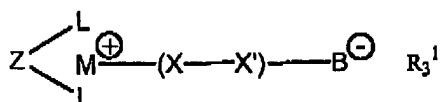
with a compound of the formula III





and reacting the reaction product with a compound of the formula  $AR^1_m$ , where L, n, M, [X, B,] X, X', A, R<sup>1</sup> and m in the formulae II, III and  $AR^1_m$  are as defined for the formula I and Hal is a halogen atom.

11. (original) A zwiterionic transition metal compound of the formula



wherein: L and L' are identical or different and are each a substituted or unsubstituted cyclopentadienyl group;

Z is a bridge linking together said L and L' and is a group of the formula CR<sup>2</sup> R<sup>3</sup> or SiR<sup>2</sup>R<sup>3</sup>;

R<sup>2</sup> and R<sup>3</sup> are identical or different and are each a hydrogen atom, a halogen atom, a C<sub>1</sub> -C<sub>20</sub> -alkyl group, a C<sub>1</sub> -C<sub>10</sub> -fluoralkyl group, a C<sub>1</sub> -C<sub>10</sub> -alkoxy group, a C<sub>6</sub> -C<sub>14</sub> -aryl group, a C<sub>6</sub> -C<sub>10</sub> -fluoroaryl group, a C<sub>6</sub> -C<sub>10</sub> -aryloxy group, a C<sub>2</sub> -C<sub>10</sub> -alkenyl group, a C<sub>7</sub> -C<sub>40</sub> -arylalkyl group, a C<sub>7</sub> -C<sub>40</sub> -alkylaryl group, a C<sub>8</sub> -C<sub>40</sub> -arylalkenyl group, or R<sup>2</sup> and R<sup>3</sup> together with the atoms connected them form one or more rings, and R<sup>2</sup> and R<sup>3</sup> are optionally bonded to L;

M is a metal atom of group IVb of the Periodic Table of the Elements;

X-X' is a 3- to 5-membered saturated or unsaturated hydrocarbon chain which is unsubstituted or substituted by one or more C<sub>1</sub> -C<sub>20</sub> -hydrocarbon radicals; and

the R<sup>1</sup> radicals are identical or different and are each a perfluorinated alkyl or aryl group having from 1 to 20 carbon atoms.

12. (original) A catalyst system for olefin polymerization comprising a transition metal compound of claim 11 and, optionally, a catalyst support material.

13. (original) A catalyst system as claimed in claim 12, wherein said catalyst system is essentially free of an aluminoxane except when said catalyst support material is present and is a solid aluminoxane.

14. (original) The catalyst as claimed in claim 8, wherein M is titanium, zirconium or hafnium.

15. (original) The catalyst as claimed in claim 12, wherein M is zirconium.

16. (Once amended) The catalyst as claimed in claim 14, wherein [an unsubstituted or ]

M is Zr,

n is equal to 2,

L are identical or different and are each a substituted cyclopentadienyl group, where two radicals L are linked to one another via a bridge Z, and

Z is CR<sup>2</sup> R<sup>3</sup> or SiR<sup>2</sup> R<sup>3</sup> or a unit Si—(CR<sup>2</sup> R<sup>3</sup>)<sub>x</sub>—Si which links two fragments L<sub>n</sub> M<sup>+</sup> XX'A—R<sup>1</sup><sub>m</sub>

with one another, where x is an integer from 0 to 10,

X and X' together form a three-membered to five-membered (C<sub>3</sub> -C<sub>5</sub>)-alkyl chain which is saturated or unsaturated and optionally substituted by C<sub>1</sub> -C<sub>20</sub> -hydrocarbon radicals,

A is a metal of group Ib, IIB, IIIB, IVa, Vb, of the Periodic Table of the Elements,

$R^1$  are identical or different and are each a pentafluorinated alkyl or aryl group having from 1 to 20

carbon atoms,

$R^2$  and  $R^3$  are identical or different and are each a hydrogen atom, a halogen atom, a  $C_1$  - $C_{20}$  -alkyl group, a  $C_1$  - $C_{10}$  -fluoralkyl group, a  $C_1$  - $C_{10}$  -alkoxy group, a  $C_6$  - $C_{14}$  -aryl group, a  $C_6$  - $C_{10}$  -fluoroaryl group, a  $C_6$  - $C_{10}$  -aryloxy group, a  $C_2$  - $C_{10}$  -alkenyl group, a  $C_7$  - $C_{40}$  -arylalkyl group, a  $C_7$  - $C_{40}$  -alkylaryl group, a  $C_8$  - $C_{40}$  -arylalkenyl group and

$m$  is equal to 3.

17. (original) The catalyst as claimed in claim 8, wherein

$M$  is zirconium,

$n$  is equal to 2,

$L$  are identical or different and are each a substituted cyclopentadienyl group, where two radicals  $L$  are bonded to one another via a bridge  $Z$ , where  $Z$  is  $CR^2R^3$  or  $SiR^2R^3$ ,

$X$  and  $X'$  together form an unsaturated four-membered ( $C_4$ )-alkyl chain whose hydrogen atoms can also be replaced by  $C_1$  - $C_{20}$  -alkyl groups,

$A$  is a boron atom,

$R^1$  are identical and are each a pentafluorophenyl group ( $C_6F_5$ ),

$R^2$  and  $R^3$  are identical or different and are each a hydrogen atom, a halogen atom, a  $C_1$  - $C_{20}$  -alkyl group, a  $C_1$  - $C_{10}$  -fluoralkyl group, a  $C_1$  - $C_{10}$  -alkoxy group, a  $C_6$  - $C_{14}$  -aryl group, a  $C_6$  - $C_{10}$  -fluoroaryl group, a  $C_6$  - $C_{10}$  -aryloxy group, a  $C_2$  - $C_{10}$  -alkenyl group, a  $C_7$  - $C_{40}$  -arylalkyl group, a  $C_7$  - $C_{40}$  -alkylaryl group, a  $C_8$  - $C_{40}$  -arylalkenyl group and  $m$  is equal to 3.

18. (Once amended) The compound as claimed in claim 1, wherein the transition metal compound of the formula I is selected from the group consisting of

bis(cyclopentadienyl)Zr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

bis(methylcyclopentadienyl)Zr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

bis(n-butylcyclopentadienyl)Zr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

bisindenylZr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

(tert-butylamido)dimethyl(tetramethyl- $\eta^5$ -cyclopentadienyl)silaneZr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

bis(2-methylbenzoindenyl)Zr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methylindenyl)Zr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediylbisindenylZr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methylbenzoindenyl)Zr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediyl(2-methylbenzoindenyl)(2-methylindenyl)Zr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediyl(2-methylbenzoindenyl)(2-methyl-4-phenylindenyl)Zr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediyl(2-methylindenyl)(4-phenylindenyl)Zr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methyl-4-phenylindenyl)Zr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methyl-4,6-diisopropylindenyl)Zr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methyl-4-naphthylindenyl)Zr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

isopropylidene(cyclopentadienyl)(fluorenyl)Zr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

isopropylidene(cyclopentadienyl)(indenyl)Zr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

[4- $\eta^5$ -cyclopentadienyl-4,7,7-trimethyl-( $\eta^5$ -4,5,6,7-tetrahydroindenyl)Zr<sup>+</sup>CH<sub>2</sub>CHCHCH<sub>2</sub>B<sup>-</sup>(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;]

4- $\eta^5$ -cyclopentadienyl-4,7,7-trimethyl-( $\eta^5$ -4,5,6,7-tetrahydroindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup>

(C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methylindenyl)Zr<sup>+</sup> OCH<sub>2</sub> CH<sub>2</sub> CH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediylbisindenylZr<sup>+</sup> OCH<sub>2</sub> CH<sub>2</sub> CH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methylbenzoindenyl)Zr<sup>+</sup> OCH<sub>2</sub> CH<sub>2</sub> CH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediyl(2-methylbenzoindenyl)(2-methylindenyl)Zr<sup>+</sup> OCH<sub>2</sub> CH<sub>2</sub> CH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediyl(2-methylbenzoindenyl)(2-methyl-4-phenylindenyl)Zr<sup>+</sup> OCH<sub>2</sub> CH<sub>2</sub> CH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;

(C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediyl(2-methylindenyl)(4-phenylindenyl)Zr<sup>+</sup> OCH<sub>2</sub> CH<sub>2</sub> CH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methyl-4-phenylindenyl)Zr<sup>+</sup> OCH<sub>2</sub> CH<sub>2</sub> CH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methyl-4,6-diisopropylindenyl)Zr<sup>+</sup> OCH<sub>2</sub> CH<sub>2</sub> CH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediylbisindenylZr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methylbenzoindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediyl(2-methylbenzoindenyl)(2-methylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediyl(2-methylbenzoindenyl)(2-methyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> CH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediyl(2-methylindenyl)(4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methyl-4,6-diisopropylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methyl-4-naphthylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methylindenyl)Zr<sup>+</sup> CH<sub>2</sub> C(CH<sub>3</sub>)C(CH<sub>3</sub>)CH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediylbisindenylZr<sup>+</sup> CH<sub>2</sub> C(CH<sub>3</sub>)C(CH<sub>3</sub>)CH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methylbenzoindenyl)Zr<sup>+</sup> CH<sub>2</sub> C(CH<sub>3</sub>)C(CH<sub>3</sub>)CH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;  
dimethylsilanediyl(2-methylbenzoindenyl)(2-methylindenyl)Zr<sup>+</sup> CH<sub>2</sub> C(CH<sub>3</sub>)C(CH<sub>3</sub>)CH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;  
dimethylsilanediyl(2-methylbenzoindenyl)(2-methyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> C(CH<sub>3</sub>)C(CH<sub>3</sub>)CH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;  
dimethylsilanediyl(2-methylindenyl)(4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> C(CH<sub>3</sub>)C(CH<sub>3</sub>)CH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;  
dimethylsilanediylbis(2-methyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> C(CH<sub>3</sub>)C(CH<sub>3</sub>)CH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;  
dimethylsilanediylbis(2-methyl-4,6-diisopropylindenyl)Zr<sup>+</sup> CH<sub>2</sub> C(CH<sub>3</sub>)C(CH<sub>3</sub>)C<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;  
dimethylsilanediylbis(2-methyl-4-naphthylindenyl)Zr<sup>+</sup> CH<sub>2</sub> C(CH<sub>3</sub>)C(CH<sub>3</sub>)CH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;  
methylphenylmethylenefluorenyl(cyclopentadienyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;  
diphenylmethylenefluorenyl(cyclopentadienyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;  
isopropylidene(3-methylcyclopentadienyl)fluorenylZr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;  
dimethylsilanediyl(3-tert-butylcyclopentadienyl)fluorenylZr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;  
diphenylsilanediyl(3-(trimethylsilyl)cyclopentadienyl)fluorenylZr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;  
phenylmethylsilanediylbis(2-methylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;  
phenylmethylsilanediylbisindenylZr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;  
phenylmethylsilanediylbis(2-methyl-4,5-benzoindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;  
phenylmethylsilanediyl(2-methyl-4,5-benzoindenyl)(2-methylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;  
phenylmethylsilanediyl(2-methyl-4,5-benzoindenyl)(2-methyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;  
phenylmethylsilanediyl(2-methylindenyl)(4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>;

phenylmethysilanediylbis(2-methyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
phenylmethysilanediylbis(2-ethyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
phenylmethysilanediylbis(2-methyl-4,6-diisopropylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
phenylmethysilanediylbis(2-methyl-4-naphthylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
ethylenebis(2-methylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
ethylenebisindenylZr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
ethylenebis(2-methyl-4,5-benzoindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
ethylene(2-methyl-4,5-benzoindenyl)(2-methylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
ethylene(2-methyl-4,5-benzoindenyl)(2-methyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
ethylene(2-methylindenyl)(4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
ethylenebis(2-methyl-4,5-benzoindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
ethylenebis(2-methyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
ethylenebis(2-methyl-4,6-diisopropylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
ethylenebis(2-methyl-4-naphthylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
ethylenebis(2-ethyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
ethylenebis(2-ethyl-4,6-diisopropylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
ethylenebis(2-ethyl-4-naphthylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
dimethylsilanediylbis(2-ethyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
dimethylsilanediylbis(2,3,5-trimethylcyclopentadienyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
1,6-{bis[methylsilyl]bis(2-methyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>]}hexane;  
1,6-{bis[methylsilyl]bis(2-ethyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>]}hexane;  
1,6-{bis[methylsilyl]bis(2-methyl-4-naphthylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>]}hexane;

1,6-{bis[methylsilylbis(2-methyl-4,5-benzoindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>] }hexane;  
1,6-{bis[methylsilyl(2-methyl-4-phenylindenyl)(2-methylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>] }hexane;  
1,2-{bis[methylsilylbis(2-methyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>] }ethane;  
1,2-{bis[methylsilylbis(2-ethyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>] }ethane;  
1,2-{bis[methylsilylbis(2-methyl-4-naphthylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>] }ethane;  
1,2-{bis[methylsilylbis(2-methyl-4,5-benzoindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>] }ethane;  
and  
1,2-{bis[methylsilyl(2-methyl-4-phenylindenyl)(2-methylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>] }ethane.

19. (Once amended) The catalyst as claimed in claim 8, wherein the transition metal compound of the formula I is selected from the group consisting of  
bis(cyclopentadienyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
bis(methylcyclopentadienyl)Zr<sup>+</sup> C<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
bis(n-butylcyclopentadienyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
bisindenylZr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
(tert-butylamido)dimethyl(tetramethyl- $\eta^5$ -cyclopentadienyl)silaneZr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
bis(2-methylbenzoindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
dimethylsilanediylbis(2-methylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
dimethylsilanediylbisindenylZr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
dimethylsilanediylbis(2-methylbenzoindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
dimethylsilanediyl(2-methylbenzoindenyl)(2-methylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
dimethylsilanediyl(2-methylbenzoindenyl)(2-methyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup>

(C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediyl(2-methylindenyl)(4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methyl-4,6-diisopropylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methylbenzoindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediyl(2-methylbenzoindenyl)(2-methylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediyl(2-methylbenzoindenyl)(2-methyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

(CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediyl(2-methylindenyl)(4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methyl-4,6-diisopropylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methyl-4-naphthylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methylindenyl)Zr<sup>+</sup> CH<sub>2</sub> C(CH<sub>3</sub>)C(CH<sub>3</sub>)CH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediylbisindenylZr<sup>+</sup> CH<sub>2</sub> C(CH<sub>3</sub>)C(CH<sub>3</sub>)CH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methylbenzoindenyl)Zr<sup>+</sup> CH<sub>2</sub> C(CH<sub>3</sub>)C(CH<sub>3</sub>)CH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediyl(2-methylbenzoindenyl)(2-methylindenyl)Zr<sup>+</sup> CH<sub>2</sub> C(CH<sub>3</sub>)C(CH<sub>3</sub>)CH<sub>2</sub> B<sup>-</sup>

(CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediyl(2-methylbenzoindenyl)(2-methyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub>

C(CH<sub>3</sub>)C(CH<sub>3</sub>)CH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediyl(2-methylindenyl)(4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> C(CH<sub>3</sub>)C(CH<sub>3</sub>)CH<sub>2</sub> B<sup>-</sup> (CF<sub>3</sub>)<sub>3</sub>;

dimethylsilanediylbis(2-methyl-4-naphthylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;

isopropylidene(cyclopentadienyl)(fluorenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;

isopropylidene(cyclopentadienyl)(indenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;

$[(4-\eta^5\text{-cyclopentadienyl-4,7,7-trimethyl-(}\eta^5\text{-4,5,6,7-tetrahydroindenyl})\text{Zr}^+\text{CH}_2\text{CHCHCH}_2\text{B}^-$

$(\text{C}_6\text{F}_5)_3;$

$\underline{4-\eta^5\text{-cyclopentadienyl-4,7,7-trimethyl-(}\eta^5\text{-4,5,6,7-tetrahydroindenyl})\text{Zr}^+\text{CH}_2\text{CHCHCH}_2\text{B}^-}$

$(\text{C}_6\text{F}_5)_3;$

dimethylsilanediylbis(2-methylindenyl) $\text{Zr}^+\text{OCH}_2\text{CH}_2\text{CH}_2\text{B}^-$   $(\text{C}_6\text{F}_5)_3$ ;

dimethylsilanediylbisindenyl $\text{Zr}^+\text{OCH}_2\text{CH}_2\text{C}_2\text{B}^-$   $(\text{C}_6\text{F}_5)_3$ ;

dimethylsilanediylbis(2-methylbenzoindenyl) $\text{Zr}^+\text{OCH}_2\text{CH}_2\text{CH}_2\text{B}^-$   $(\text{C}_6\text{F}_5)_3$ ;

dimethylsilanediyl(2-methylbenzoindenyl)(2-methylindenyl) $\text{Zr}^+\text{OCH}_2\text{CH}_2\text{CH}_2\text{B}^-$   $(\text{C}_6\text{F}_5)_3$ ;

dimethylsilanediyl(2-methylbenzoindenyl)(2-methyl-4-phenylindenyl) $\text{Zr}^+\text{OCH}_2\text{CH}_2\text{CH}_2\text{B}^-$   $(\text{C}_6\text{F}_5)_3$ ;

$(\text{C}_6\text{F}_5)_3;$

dimethylsilanediyl(2-methylindenyl)(4-phenylindenyl) $\text{Zr}^+\text{OCH}_2\text{CH}_2\text{CH}_2\text{B}^-$   $(\text{C}_6\text{F}_5)_3$ ;

dimethylsilanediylbis(2-methyl-4-phenylindenyl) $\text{Zr}^+\text{OCH}_2\text{CH}_2\text{CH}_2\text{B}^-$   $(\text{C}_6\text{F}_5)_3$ ;

dimethylsilanediylbis(2-methyl-4,6-diisopropylindenyl) $\text{Zr}^+\text{OCH}_2\text{CH}_2\text{CH}_2\text{B}^-$   $(\text{C}_6\text{F}_5)_3$ ;

dimethylsilanediylbis(2-methylindenyl) $\text{Zr}^+\text{CH}_2\text{CHCHCH}_2\text{B}^-$   $(\text{CF}_3)_3$ ;

dimethylsilanediylbisindenyl $\text{Zr}^+\text{CH}_2\text{CHCHCH}_2\text{B}^-$   $(\text{CF}_3)_3$ ;

dimethylsilanediylbis(2-methyl-4-phenylindenyl) $\text{Zr}^+\text{CH}_2\text{C}(\text{CH}_3)\text{C}(\text{CH}_3)\text{CH}_2\text{B}^-$   $(\text{CF}_3)_3$ ;

dimethylsilanediylbis(2-methyl-4,6-diisopropylindenyl) $\text{Zr}^+\text{CH}_2\text{C}(\text{CH}_3)\text{C}(\text{CH}_3)\text{CH}_2\text{B}^-$   $(\text{CF}_3)_3$ ;

dimethylsilanediylbis(2-methyl-4-naphthylindenyl) $\text{Zr}^+\text{CH}_2\text{C}(\text{CH}_3)\text{C}(\text{CH}_3)\text{CH}_2\text{B}^-$   $(\text{CF}_3)_3$ ;

methylphenylmethylenefluorenyl(cyclopentadienyl) $\text{Zr}^+\text{CH}_2\text{CHCHCH}_2\text{B}^-$   $(\text{C}_6\text{F}_5)_3$ ;

diphenylmethylenefluorenyl(cyclopentadienyl) $\text{Zr}^+\text{CH}_2\text{CHCHCH}_2\text{B}^-$   $(\text{C}_6\text{F}_5)_3$ ;

isopropylidene(3-methylcyclopentadienyl)fluorenyl $\text{Zr}^+\text{CH}_2\text{CHCHCH}_2\text{B}^-$   $(\text{C}_6\text{F}_5)_3$ ;

dimethylsilanediyl(3-tert-butylcyclopentadienyl)fluorenyl $\text{Zr}^+\text{CH}_2\text{CHCHCH}_2\text{B}^-$   $(\text{C}_6\text{F}_5)_3$ ;

diphenylsilanediyl(3-(trimethylsilyl)cyclopentadienyl)fluorenyl $\text{Zr}^+\text{CH}_2\text{CHCHCH}_2\text{B}^-$   $(\text{C}_6$

$F_5)_3$ ;

phenylmethyldilanediylbis(2-methylindenyl) $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

phenylmethyldilanediylindenyl $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

phenylmethyldilanediylbis(2-methyl-4,5-benzoindenyl) $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

phenylmethyldilanediyl(2-methyl-4,5-benzoindenyl)(2-methylindenyl) $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

phenylmethyldilanediyl(2-methyl-4,5-benzoindenyl)(2-methyl-4-phenyldenyl)  $Zr^+ CH_2$

$CHCHCH_2 B^- (C_6 F_5)_3$ ;

phenylmethyldilanediyl(2-methylindenyl)(4-phenyldenyl) $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

phenylmethyldilanediylbis(2-methyl-4-phenyldenyl) $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

phenylmethyldilanediylbis(2-ethyl-4-phenyldenyl) $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

phenylmethyldilanediylbis(2-methyl-4,6-diisopropylindenyl) $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

phenylmethyldilanediylbis(2-methyl-4-naphthylindenyl) $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

ethylenebis(2-methylindenyl) $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

ethylenebisindenyl $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

ethylenebis(2-methyl-4,5-benzoindenyl) $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

ethylene(2-methyl-4,5-benzoindenyl)(2-methylindenyl) $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

ethylene(2-methyl-4,5-benzoindenyl)(2-methyl-4-phenyldenyl) $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

$F_5)_3$ ;

ethylene(2-methylindenyl)(4-phenyldenyl) $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

ethylenebis(2-methyl-4,5-benzoindenyl) $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

ethylenebis(2-methyl-4-phenyldenyl) $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

ethylenebis(2-methyl-4,6-diisopropylindenyl) $Zr^+ CH_2 CHCHCH_2 B^- (C_6 F_5)_3$ ;

ethylenebis(2-methyl-4-naphthylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
ethylenebis(2-ethyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
ethylenebis(2-ethyl-4,6-diisopropylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
ethylenebis(2-ethyl-4-naphthylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
dimethylsilanediylbis(2-ethyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
dimethylsilanediylbis(2,3,5-trimethylcyclopentadienyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>;  
1. 6-{bis[methylsilylbis(2-methyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>]}hexane;  
1,6-{bis[methylsilylbis(2-ethyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>]}hexane;  
1,6-{bis[methylsilylbis(2-methyl-4-naphthylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>]}hexane;  
1,6-{bis[methylsilylbis(2-methyl-4,5-benzoindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>]}hexane;  
1,6-{bis[methylsilyl(2-methyl-4-phenylindenyl)(2-methylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>]}hexane;  
1,2-{bis[methylsilylbis(2-methyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>]}ethane;  
1,2-{bis[methylsilylbis(2-ethyl-4-phenylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>]}ethane;  
1,2-{bis[methylsilylbis(2-methyl-4-naphthylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>]}ethane;  
1,2-{bis[methylsilylbis(2-methyl-4,5-benzoindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>]}ethane;  
and  
1,2-{bis[methylsilyl(2-methyl-4-phenylindenyl)(2-methylindenyl)Zr<sup>+</sup> CH<sub>2</sub> CHCHCH<sub>2</sub> B<sup>-</sup> (C<sub>6</sub> F<sub>5</sub>)<sub>3</sub>]}ethane.

20. (original) The compound as claimed in claim 1, wherein M is zirconium.

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21. (original) The compound as claimed in claim 1, wherein M is a metal atom group IVb of the  
Periodic Table of Elements.

Claims 22-53 cancelled

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